

PRICE-BID

ESTIMATE FOR HVAC WORKS (VRV) AT SBI GLOBAL NRI CENTRE, PATIALA

Sr. No.	Description of work	Unit	Qty.	Rate	Amount
	Variable Refrigerant Volume System				
	<p>Supplying, installation, testing and commissioning of Air Cooled VRV/VRF units with scroll Compressor capable of modulating capacity i.e. it should be able to vary speed of the compressor as per the varying load conditions and works on R410A with heating & cooling both. The outdoor unit shall be a factory assembled unit housed in a sturdy weather proof casing constructed from rust-proofed mild steel panels coated with powder coated finish. The outdoor unit shall have scroll compressors and be able to operate even in case of breakdown of one of compressor. Each unit shall be equipped, with an oil separator to ensure stable operation with long refrigerant piping etc. Condenser Shall have with Hydrophlic Coating and Corrosion Resistance Black Coated Fin. All compressor shall have inverter technology i.e. outdoor units shall have all inverter based compressor. The manufacturer of ODU and compressor shall be same. i.e the make of compressor shall be identical of the ODU. All Bidders has to submit the test certificates along with the delivery of VRF/VRV Units at site. A draft Format of the same need to be submitted along with in the Technical Bid.All compressor shall have inverter technology i.e. outdoor units shall have all inverter based compressor. (Chinese Manufacturing Machinery is not Acceptable)</p>				
1	Outdoor Unit				
	<p>Supplying, Installation Testing and Commissioning Including vacumising, Gas charging of Modular type outdoor units equipped with highly efficient scroll compressors, with all Inverter Scroll type compressor(s), special acryl pre-coated heat exchanger, low noise condenser fan, auto check function for connection error etc, centralized controller for individual control complete as per OEM specifications of Following Capacity. COP of system 3.7 at 100% load & 7.50 at 50% at AHRI conditions.The manufacturer of ODU and compressor shall be same. i.e the make of compressor shall be identicle of the ODU. All Bidders has to submit the test certificates along with the delivery of VRF/VRV Units at site. A draft Format of the same need to be submitted along</p>				

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	with in the Technical Bid. (Chinese Manufacturing Machinery is not Acceptable)				
	All compressor shall have inverter technology i.e. outdoor units shall have all inverter-based compressor.				
i)	48 HP ODU (16 HP X 3 ODU) Top Discharge	2	Nos.		
2	Supplying, installation, testing and commissioning of below mentioned capacity 4 Way Cassette indoor unit of air conditioners complete with fan and fan motor, controls, drain Pump etc. as per specifications and drawings. (Chinese Manufacturing Machinery is not Acceptable)				
	Make- LG / DAIKIN / CARRIER / VOLTAS				
i)	4 Way Cassette Unit - 1.60 TR	2	Nos.		
ii)	4 Way Cassette Unit - 2.02 TR	3	Nos.		
iii)	4 Way Cassette Unit - 2.50 TR	3	Nos.		
iv)	4 Way Cassette Unit - 3.02 TR	1	Nos.		
iv)	4 Way Cassette Unit - 3.50 TR	18	Nos.		
3	Supplying, installation, testing and commissioning of below mentioned capacity Hi-Wall indoor unit of air conditioners complete with fan and fan motor, controls etc. as per specifications and drawings. (Chinese Manufacturing Machinery is not Acceptable)				
i)	Hi-Wall Unit - 0.83 TR	1	Nos.		
ii)	Hi-Wall Unit - 1.30 TR	2	Nos.		
4	Supplying, Installation, Testing and commissioning of Imported fittings (Ref Net) Y-joints etc as per specifications as required complete in all respects. (Chinese & Third-Party Manufacturing Y-Joint are not Acceptable)	28	Nos.		
5	Remotes				
i)	Supplying, Installation, Testing and commissioning of Cordless Remote reqd. to operate the indoor Cassette & Hi-Wall units as per specification mentioned in the bidding document and as per standard guidelines etc. as required.	30	Nos.		
ii)	Supplying, Installation, Testing and commissioning of Centralized Remote Controller Touch Screen Type, Each CRC controll 64 nos. of Indoor units as per specification mentioned in the bidding document and as per standard guidelines etc. as required.	1	Nos.		
6	Copper Refrigerant Piping				
a)	41.3 mm O.D.(insulation : 19 mm)	80	Mtrs.		

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b)	31.8 mm O.D.(insulation : 19 mm)	70	Mtrs.		
iii)	28.6 mm O.D.(insulation : 19 mm)	90	Mtrs.		
iv)	22.2 mm O.D.(insulation : 13 mm)	110	Mtrs.		
v)	19.1 mm O.D.(insulation : 13 mm)	130	Mtrs.		
vi)	15.9 mm O.D.(insulation : 13 mm)	340	Mtrs.		
vii)	12.7 mm O.D.(insulation : 13 mm)	150	Mtrs.		
viii)	9.5 mm O.D.(insulation : 13 mm)	330	Mtrs.		
ix)	6.3 mm O.D.(insulation : 13 mm)	70	Mtrs.		
7	Supplying, installation, testing and commissioning of following sizes of rigid PVC piping complete with elbow T-joint, socket duly supported as per specifications and insulated with 6mm thick closed cell nitrile rubber insulation.				
i)	25 mm Dia	170	Mtrs.		
ii)	32 mm Dia	200	Mtrs.		
8	Supplying and installation following size of perforated pre-painted M.S. cable trays with perforated pre-painted M.S. cable trays with perforation not more than 17.5%, in convenient sections joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc. as required complete in all respects.				
i)	150mm (wide) x 50mm(depth) x 1.6mm (thick)	40	Mtrs.		
ii)	300mm (wide) x 50mm(depth) x 1.6mm (thick)	80	Mtrs.		
9	Providing & fixing control cum transmission wiring of 2 core x 1.5 sqmm copper in suitable PVC conduits between indoor and outdoor unit.	950	Rmt		

SUMMARY OF COST				
S.No.	Description	Basic Cost	GST AMOUNT	Total Cost with GST
1	SUPPLY OF EQUIPMENT			
2	LOW SIDE WORKS			
	TOTAL COST OF WORK			

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GENERAL MATERIAL MAKES (For VRV HVAC WORKS)

Sr.No	Name of Various Items	Makes
1	APPROVED MAKES FOR AIR-CONDITIONING EQUIPMENT (indoors & outdoors)	DAIKIN, CARRIER, BLUESTAR, O-GENERAL, MITSUBISHI ELECTRIC, LG, HITACHI & VOLTAS
2	Software integration	DAIKIN, CARRIER, BLUESTAR, O-GENERAL, MITSUBISHI ELECTRIC, LG, HITACHI & VOLTAS
3	Copper Pipes	MEXFLOW / CAMIPRO (TOTALINE) /
4	Nitrile Rubber Insulation	A-Flex/ Supreme /K-flex/Hira insulation/armaflex
5	Drain Pipes	PRINCE, DURABLE, ASTRAL, SUPREME, DIPLAST
6	Wires/control cables	Havells/ RR Kable / KEI/Finolex
7	Copper/ Aluminium Power Cables	Havells/Polycab/Finolex/KEI
8	PVC Conduit	ISI Marked
7	MS Conduit	Anchor/North West /BEC ISI Marked
8	GI Pipe	ISI Marked
9	Switches/ Sockets (Modular)	Anchor/Crabtree/North-West/MK
10	Raceways	MK /North-West/Schnieder
11	Cable Glands	HMI/BBI/Commet
12	Lugs/Ferrules	Esscon/Jainson/MEC
13	Cable tray	ISI marked

Note: -

1. The contractor should obtain prior approval from Employer / Consultants before placing order for any specific materials. Employer may change / delete any of the makes or brands out of the above list.
2. All materials should conform to relevant standards and codes of BIS. Materials with I.S.I. mark shall be used duly approved by the STATE BANK OF INDIA Engineer / Architect.
3. **If any material is found to be not up to the mark, the contractor will have to produce original bills/certificate from the manufacturer or his authorized Distributor for authenticity and genuineness of the material for consideration and as per make approved by the STATE BANK OF INDIA. The same will not be considered for payment.**

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